

Background:

1. What do the following words mean?

Weathering

Erosion (Transportation)

Sediments

Deposition (Sedimentation)

River channel

Flood plain

River delta

Alluvial fan

2. Where do some of these happen?

Pictures

1. How does the channel change as a river moves from the mountains to the plains? Discuss whether the channel is **straight or curving**, how **deep** it is compared to the surrounding land, and how **wide** it is. (3 points)

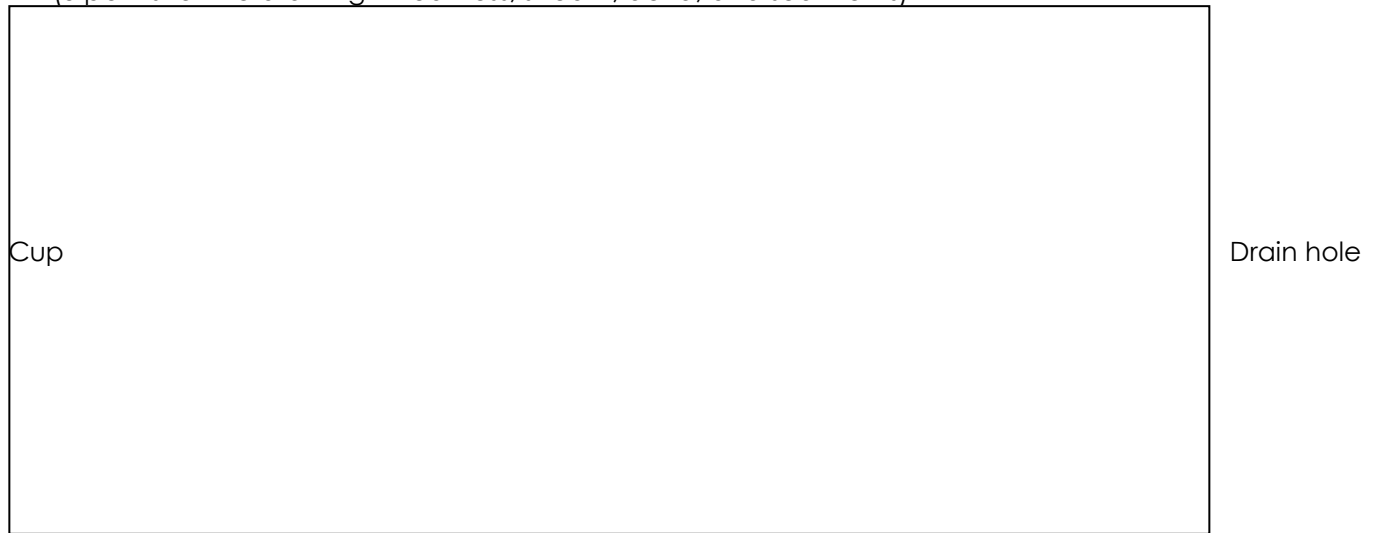
2. How is a river delta **similar** to an alluvial fan and how are they **different**? (2 points)

Procedure and data:

Stream tables model how streams and rivers form and change as they flow down slope. Stream tables show the processes of erosion and deposition of these sediments as the water slows down.

1. Set up the stream table as demonstrated.
2. The wood should be placed with the highest side supporting the stream table.
Make sure that the bucket is in position to catch the water!
3. Hold the cup with the hole in it in one place at the top of the stream table and use three large cups of water to create a stream channel.
4. Make a **careful, detailed, neat** drawing. You do not need to show the silt, sand, and pebbles that are smoothed out in the stream table. Draw only the **stream**, its **delta**, and the **deposited sediments**.
5. **Make a key** for the following: You may use colored pencils or different symbols in one color. (1/2 point)
stream = rocks and pebbles = sand = silt =

(3 points for the drawing – neatness, stream, delta, and sediments)



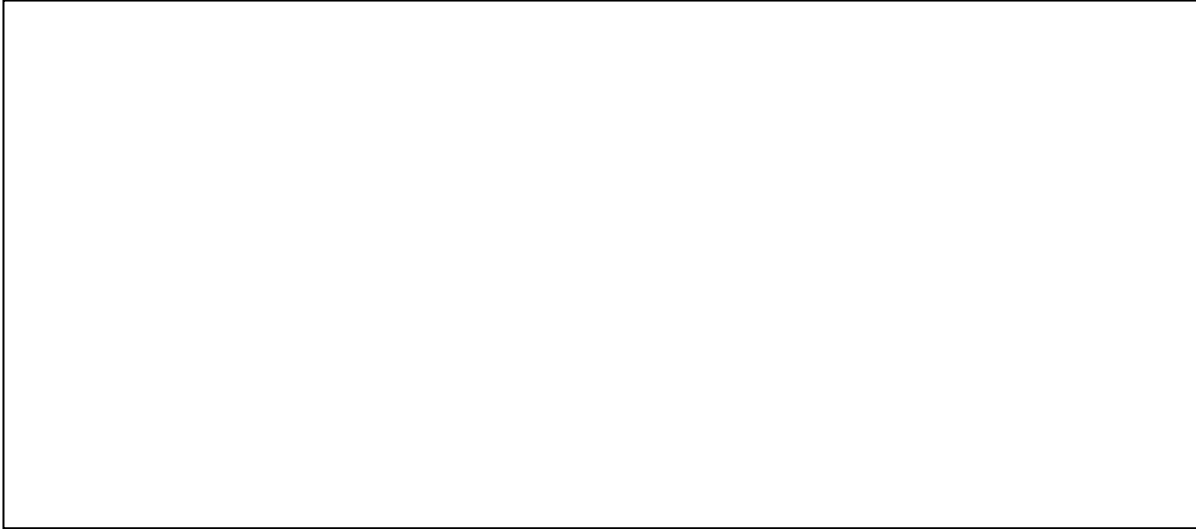
Steep slope Edge of soil
Aerial view of the stream, its delta, and the sediments

6. Now get the soil back to the way it was in the beginning and change the wood so the stream table is lower than it was before. Once again use three cups of water and note what happens with the erosion and deposition (sedimentation) of the soil materials.
7. Make a careful drawing of both the stream pattern and the deposition of the materials at its mouth.
(3 points - neatness, stream, delta, and sediments)



Medium slope Aerial view of the stream, its delta, and the sediments

8. Again get the soil back to the way it was in the beginning. This time use the petri dishes to hold up one end of the stream table. Make one last drawing. (3 points - neatness, stream, delta, and sediments)



Shallow slope Aerial view of the stream, its delta, and the sediments

Discussion:

1. In a paragraph discuss how the steepness of the slope affects the **water's speed**, the **amount** and **kind** of **sediments** carried by the water, the shape of the river channel (stream bed) – **both curviness and depth** (5 points)
2. Rivers have tendency to meander (meander means to wander around) in flat areas. Explain why this happens. (1 point)
3. One place deposition happens is at a river delta. The distance from the mouth of the river affects where different kinds of sediments that are deposited on the delta. Discuss **two kinds of sediments**, **where** they are deposited on the delta and **why** they are deposited in these positions. (2 points)

